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G. C. SAVAGE, M.D., Editor and Publisher.

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. . . IN . . .

OPHTHALMOLOGY.

AS DEVELOPED

—BY—

G. C. SAVAGE, M.D.

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THE
OPHTHALMIC RECORD.

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SCIENTIFIC PROCEEDINGS OF THE SECTION OF OPHTHALMOLOGY, A. M. A., ATLANTA MEETING, MAY, 1896.

The meeting was called to order by Secretary Allport, who read a letter from Chairman Howe expressive of regrets that his presence in Europe would prevent his being with the Section to preside over its deliberations.

By motion, Dr. de Schweinitz was chosen to preside the first day. By motion of Dr. Reynolds, Secretary Allport was directed to read the address which Chairman Howe had prepared. It contained a number of practical suggestions which we would be glad to present in abstract, but such has not been furnished us because of the prolonged absence of Dr. Howe from his home.

The program was long and varied, but many of the papers had to be read by title, the authors being absent. We give below abstracts of some of the papers read, and follow each abstract with the discussion in full. The first paper read was on

THE NOMENCLATURE OF CONJUNCTIVITIS.

By DUDLEY S. REYNOLDS, A.M., M.D., Louisville, Ky

Professor of Ophthalmology, Otology, and Medical Jurisprudence, in the Hospital College of Medicine, Medical Department of the Central University of Kentucky; Surgeon to the Eye and Ear Department of the Louisville City Hospital, etc.

It would appear to those who have given little thought to the subject a useless task to attempt to improve the nomenclature of the inflammations of the conjunctiva; but, if we glance

through the text books, it may easily be seen that much confusion has been created by the reckless use of terms; some of them little better than slang, many of them positively absurd, others decidedly misleading, and so I have concluded it might not be altogether unprofitable to review the subject in brief.

Any system of nomenclature should at least have the merit of being founded upon reason. When we consider that many writers have attempted to classify diseases of the conjunctiva according to their supposed origin, whilst others have followed the ancient plan of St. Yves of designating diseases by their symptoms, the necessity of revision is at once apparent.

In my own opinion, two general divisions of the subject are admissible: Traumatic Conjunctivitis, and Infectious Conjunctivitis. The simplest form of the Traumatic variety is attended by hyperæmia, lachrymation, followed by hyper-secretion of mucus. The simplest type of Infectious Conjunctivitis is manifested by the presence of hyperæmia, and hyper-secretion of mucus, often without lachrymation.

According to the intensity of the inflammation, and the character of the infection, the pathological conditions vary, and it seems to me more rational to designate the varying types of conjunctivitis according to their pathological characters; for, as these vary, there should necessarily be employed varying modes of treatment.

Of course all the inflammations attended by a discharge of fluid, are catarrhal in character, and, as these vary from the mildest type of conjunctivitis simplex, to the most virulent gonorrhœal inflammation, the term "catarrhal" can have but little significance.

Now, if we take the traumatic and infectious forms of inflammation and divide them into primary and secondary groups, designating each variety or species according to the pathological condition, employing some suitable designation of their clinical

features, we shall be in an advantageous position for the systematic study of the whole subject.

If we divide conjunctivitis pathologically and clinically, we adopt, necessarily, the designations which clinical experience rather than customary theoretical observance suggests; and instead of Catarrhal and Dry, we must rather recognize the causes of these states.

TRAUMATIC CONJUNCTIVITIS—PRIMARY GROUP.

(a) Local irritation from injuries either mechanical or chemical, which involve loss of epithelium.

(b) Local injuries, either mechanical or chemical, which involve the basement membrane.

(c) Local injuries, mechanical or chemical, which involve the sub-mucous tissues.

TRAUMATIC CONJUNCTIVITIS—SECONDARY GROUP.

(a) Infected epithelial abrasions.

(b) Infected interstitial wounds.

(c) Infected primarily penetrating sub-mucous wounds.

(d) Sloughs from burns or contusions.

(e) Secondary ulcerative processes, from arrested circulation.

INFECTIOUS CONJUNCTIVITIS—PRIMARY GROUP.

(a) Muco-purulent inflammation of mild type, in which the staphylococcus pyogenous albus is the infecting agent.

(b) Muco-purulent inflammation in which a pseudo-membranous formation, or mycelium covers the conjunctiva.

(c) Purulent conjunctivitis without abrasions of such depth and extent as to give rise to sero-sanguinolent excretions, and in which the cornea is not involved.

(d) Purulent inflammation in which early abrasions occur, attended by sero-sanguinolent discharge, without evidence of gonorrhœal infection, both eyes being affected.

(e) Purulent conjunctivitis, with early abrasions of corneal epithelium, and penetrating ulceration of the mucosa, followed

by interstitial œdema of the conjunctiva, and purulent infiltration of the substantia propria corneæ.

INFECTIOUS CONJUNCTIVITIS—SECONDARY GROUP.

(a) Chronic muco-purulent discharge, with indurated palpebral and retrotarsal portions, the ocular portion and corneal epithelium being apparently normal.

(b) Chronic muco-purulent discharge with abrasions of corneal epithelium.

(c) Blennorrhœal, or gleety discharge, with hypertrophied papillæ, without corneal abrasions.

(d) Blennorrhœal, discharge with hypertrophied papillæ, and corneal abrasions without neoplasms.

(e) Hypertrophied papillæ with vascular opacity, or pannus

SYMPTOMATIC CONJUNCTIVITIS.

(a) Hyperplastic conjunctivitis, due to prolonged contact of irritating foreign bodies, or irritating gasses, without abrasions.

(b) Local interstitial inflammations, due to imbedded foreign bodies, including pterygia.

(c) Penetrating ulcers in the course of wasting diseases.

(d) Trachomatous bodies more or less extensively distributed, with or without corneal abrasions.

(e) Trachomatous bodies complicating any of the forms in the secondary group of infectious inflammations.

(f) Atrophy of part or the whole surface from destruction of the secreting organs of the conjunctiva.

(g) Circumscribed inflammations corresponding to phlyctenular neoplasms.

(h) Vesicles followed by indurated abrasions accompanying eczematous eruptions, or blepharitis marginalis.

(i) Diphtheritic conjunctivitis, (rarely seen in the United States).

DISCUSSION.

G. C. Savage, Nashville: My division of conjunctivitis is into local, general and traumatic. I think this classification

much more simple than that presented by my friend Reynolds. Under the local class we have three forms of the phlyctenular conjunctivitis and papillary, follicular and trachomatous conjunctivitis. Under the general class we have simple, mucopurulent, purulent, diphtheripic and atropine conjunctivitis. The traumatic forms are soon dismissed. In this way I have been able to teach my classes, in Vanderbilt University, about conjunctival diseases to their easy comprehension.

D. S. Reynolds: The remarks of Dr. Savage express, in some measure, at least, the reason which prompted me to write on this subject. Surely the term follicular conjunctivitis could hardly be accepted as a serious attempt to express any visable form; for if I understand the meaning of the word follicle it is a small sac. Surely no one would pretend to distinguish an inflammation of the mucous follicles of the conjunctiva which does not equally affect the interfollicular portions of the membrane. I am just as far from admitting that trachomatous bodies or masses of gelatinoid or adenoid neoplasms can by any stretch of the immagination be mistaken for those minute depressions in the surface of a mucous membrane which we correctly term mucous follicles.

SUB-CONJUNCTIVAL INJECTIONS.

By EDWARD J. BERNSTEIN, Baltimore, Md.

Although unfavorably impressed with this method when first brought to his notice, the author has become an advocate of its use in certain cases under certain well defined conditions. By (1) use of Cyanide of Mercury (1—3,000) in 1 p. c. Cocaine Mur. Sol.; (2) observance of thorough antiseptics; (3) cocanizing conjunctival sac; (4) making injectiononly sub-conjunctivally (and not under Tenon's Capsule) and at least one c. m. from limbus, holding needle at a tangent to globe; (5) avoiding large blood-

vessels of conjunctiva (this is facilitated by rubbing lid over globe once or twice, when the larger ones come into view) these injections can be made with little or no pain, or danger to cornea, or formation of adhesion betweensclera and conjunctiva.

He criticises unfavorably the assertion of Muttermilch that but one-third of fluid so injected enters the eye, as founded on no fact, and that the action of drugs instilled into the eye is as intense or so rapid as when injected; nor is it so exact a method of dosage as this latter.

He has proved that mercury so injected enters the eye and cites the experiments of Knies, Ovis and Pflueger, Bucchi, Carl Mellinger and Bossalino to substantiate this statement, notwithstanding neither Bach nor Hess could find any Hg. in the tissues. Although he believes the main action to be by stimulation of circulation in lymph channels yet prefers Hg. Cyn. to Na. Cl. Sol. as giving better results, agreeing thus with Gepner. Sub-conj. injections must never be understood as intended to supplant general and other local treatment, but rather as a potent aid to them.

The adverse criticism of Mellinger, Gutman, Haab and others cannot be taken seriously as their practical experience in this line has not been sufficient when contrasted with the eight years work of Darier, the 2, 000 injections of Deutschmann, and the great number of cases treated with more or less success by Gepner, Peunow, Piconnoff, Bergmeister, Schmidt-Rimpler, Grossman, De Schweinitz, and others.

He reports cures in *two* (2) cases of Hypopion Keratitis; (1) one case of Plastic Iritis in which he had to resort to iridectomy in the eye first affected but was able to overcome synechiæ in second eye after four injections. Had negative result in a case of optic nerve atrophy of doubtful origin, and in one case of choroiditis disseminata. Hastened cure in two cases of toxic anblyopia, and has now two cases of detachment of retina under treatment with some signs of improvement.

The article concludes with brief review of most of the cases published since Valude's article in the *Annales D'Oculistique.*

In Keratitis Parenchaymatosa, general treatment is of first importance, injections indicated in K. Benigna, K Circumscripta, K. Atonica (where results are only short of the marvelous), also in period of decline. Darrier, Deutschmann, Zossenheim, Peunow, Piconnoff, Veasey, Abadie, Chibret, Gossetti, Motais, Matarangos, indorse. These approve fully. While Gepner and Schmidt-Rimpler feel doubtful of its utility here, and Haab discredits it altogether. In Ker. Ulcer. it will cure mild cases quicker than older methods. In grave cases the galvano-cautery andSaemisch incision are to be preferred though cure is hastened when followed by sub conj. injections. Endorsed by Darrier, Gepner, Gagarin, Peunow, Veasey, Abadie, Mellinger, Bucchi, Gossetti, Grossman, Rogman and others. Opposed by Chibert, Masselon, Schmidt-Rimpler (who has only good results in 3 out of 11 cases), Deutschmann (who prefers galvano-cautery).

In iritis contra-indicated whenever and wherever active inflammation is seen, only to be used in very beginning, or when violence has abated, or in relapse, but especially in plastic iritis and in breaking up old synechiæ. Following these indications it is highly endorsed by Darrier, Gepner, Zossenheim, Pennow, Piconnoff, Veasey, Bergmeister, Schmidt-Rimpler, Grossman, Alt and De Schweinitz. Bocchi and Masselon do not approve of its use.

In irido-choroiditis following along indications—i. e., using it only when *not* accompanied by active inflammation—often get marvelous results. Darrier, Grossman, Alt, Pflueger, Matarangos, and Deutschmann endorse sub-conjunctival injections here.

In choroiditis and retinitis, Darrier claims "a favorable result in 25 p. c. of his cases and in 10 p. c. a result simply surprising." He is supported in this by Abadie, Venneman, Grandclermont, Gepner, Peunow, Deutschmann, Schmidt-Rimpler, Alt and Bull.

But Bergmeister, Bocchi, Masselon, Laegner and Dianow feel it is not to be recommended here.

In optic nerve trouble Darrier says results are encouraging in all infectious inflammations.

In retro-bulbar neuritis, compression neuritis and specific neuritis greater amelioration than by older method. No results to be looked for in diabetic atrophy, in white atrophy following old inflammation even though a temporary improvement does take place. In these opinions he is sustained by Grossman, Matarangos, De Wecker and Lindsay Johnson. Deutschmann's results were negative in every case, though Hirshberg reports two (2) cases in which good results were obtained.

In Sympathetic Ophthalmia, Gosseth, Deutschmann, and Piconnoff report success.

In Scleritis, De Schweinitz, Bull and Veasey, report some good results among a number of negative.

In pan-ophthalmitis, Abadie, Coppez, Darrier, Gepner, Rogman, Seggel and Deutschmann favor its use not only as a preventative but as a cure when it has already lighted up.

DISCUSSION.

G. E. De Schweinitz, Philadelphia: I have used the subconjunctival injections since 1892, and also advised my chief of clinic, Dr. C. A. Veasey, whose results have been quoted, to employ them. My experience is that exactly the same results are obtained whether the bi-chloride of mercury or the physiological salt solution is used, each being equally efficient in suitable cases. I have secured good results in iritis, no matter what its type, provided there is no high inflammatory action. Good results were also obtained in episcleritis and some types of keratitis. I have failed, however, to secure good results in corneal ulcers and in diseases of the deeper coats, e. g. choroiditis. I would call attention to the promptness with which these injections—either salt or mercuric—relieve pain and advance reso-

lution in certain cases of inflammatory diseases of the iris and episcleritis, but would also suggest that a relapse is more likely to occur than when ordinary constitutional measures are thoroughly employed. I believe that sub-conjunctival injections deserve a permanent place in ophthalmic therapeutics, but not to the exclusion of constitutional measures.

G. C. Savage, Nashville: We should all be slow in condemning a measure which we have not tried. We may be too ready often to so act. I have had some experience in this line of treatment. I have used only the bi-chloride, but found it two painful. When opportunity offers I shall use the cyanide of mercury. I wish to condemn the practice of not using atropine in iritis, as set fourth in a quotation made by Dr. Bernstein, although sub-conjunctival injections of cyanide of mercury may be capable of accomplishing much. Atropine should never be omitted in the treatment of iritis whatever else may be done. I want to go on record as believing that it would be a grave error to neglect bringing the iris under the influence of atropine, whoever may recommend to the contrary.

D. S. Reynolds, Louisville: I am not persuaded that any local method of treating iritis, excepting the persistent use of an efficient mydriatic, has ever accomplished any desirable result. The sub-conjunctival injection of a solution of chloride of sodium in cases of synechia following iritis from all causes is undoubtedly valuable, but I should certainly avoid the use of any sort of sub-conjunctival injections during the active stages of any form of iritis.

A. W. Stirling, Atlanta: I watched the use of this method in a fair number of cases in London and Paris and have tried it myself, but gave it up because it was so painful. It will not take precedence over the older methods.

A. R. Baker, Cleveland: Having used the strong solutions of bi-chloride of mercury and found the injections painful I es-

timated the amount of mercury which would reach the eye from a sub cutaneous injection as generally used and determined that a much weaker solution would probably prove efficient. I therefore tried a $\frac{1}{1000}$ solution with excellent results in a large number of cases; notably, interstitial keratitis and central choroiditis. The injections were never painful and the results appeared as good as from the stronger solution. In private practice it has been found necessary to combine its use with the accepted methods of treatment but with more rapid recovery than when its use is omitted.

Dunbar Roy, Atlanta: About three weeks ago I read a paper before the Georgia Medical Society on this subject. I use the method in my clinic where the patients consist largely of the colored race, who have a great deal of corneal trouble. I have used it for the reason that it is saving so far as giving out medicine is concerned and better than if I give them the medicine to use at home. My results have been good to an extent, but not as far as those reported to-day. In ulcers of the cornea I have had good results, but no better than when I use hot fomentations and iodoform. In post-suppurative trouble and panophthalmitis and in cases of suppurative iritis I have used it with success. I have used $\frac{1}{1000}$ bi-cloride with an ordinary hypodermic needle, sterilizing both the instrument and the field before the operation. In iritis I have not seen adhesions break up and have had no results in choroiditis, but my experience leads me to say that inulcerative and suppurative forms of conjunctivitis or keratitis the results are as good as those obtained by other methods.

E. J. Bernstein: I have no experience as yet with relapses, but one must not forget that neither atropine nor general treatment are to be left out in iritis. As to pain I may have been more fortunate than others, but as yet have had none, or very little, after sub-conjunctival injections. I am now treating a case

of detachment of the retina, without much hope of cure, I must confess, but because no other treatment has availed. I agree with Dr. Savage that no one should follow Abadie in not using atropine in iritis. Furthermore, and with all due deference to M. Abadie, I should hesitate to follow implicitly his lead. In phlyctenular keratitis I should not think of using this method as I believe most men agree that the yellow ointment is all that is needed.

SOME OBSERVATIONS AT THE ROYAL OPHTHALMIC HOSPITAL, LONDON.

By JAS. W. DUNN, M.D.

One of the first things that will arrest the attention of the American student here is the almost constant employment of an iridectomy in cataract extractions by oculists of this country. Of course, there are men here who do extractions without this operative procedure, as there are men in our country who employ it, but the concensus of practice here is in favor of the double operation, while among American operators the simple extraction is very popular. The difference to me was the more striking because of my having come directly here from a place in New York where the leading operator, who is one of the best anywhere, seems to exert himself to make a record in favor of the simple method, but the contrast would most likely suggest itself to any one. It is not for me to say which method succeeds best; masters do the work in both places and, consequently, the results are good. The operator in New York referred to above takes great pleasure in exhibiting a perfect pupil after the eye has healed; and it has occurred to me that he, in cases where the lens is very large and the iris rigid, sometimes sacrifices safety that he may attain his object; but his results are marvelous. Some operators here do the iridectomy a few

weeks before the extraction, while others do both operations at one sitting, and each is pleased with his results. Now, what is the lesson in all this? Simply that, leaving out the peculiarities of each case, each operation succeeds in the hands of experts, and the results prove that every man is strongest in that operation he has studied most and learned best. He rides best that which he has ridden most, be it hobby or horse.

In the manner of opening the capsule there are almost as many methods as there are men. These vary from the T incision to the single cut, either straight and verticle or horizontal, or circular and above, under the edge of the iris. One operator is very careful in describing his incision since he claims by it the least possible amount of pressure is exerted on the lens, and thus the liability to the escape of vitreous is lessened. He has a very narrow and rather long knife, bent gently near its point on the flat, and very sharp,with which to open the capsule. This he introduces through his incision with its back down, passes the point beneath the lower edge of the iris, and by vertical pressure cuts the capsule. The advantage is there is no tearing but a cutting, and the necessary force, which is very slight, is not exerted backwards on the vitreous. Indeed, he claims that when once introduced into the lens, the cutting, if necessary, may be so done that it has a tendency to lift the lens out of its position.

This same operator exhibited to us rather an interesting case of hypopion ulcer the other day. The operation for the same was done in the usual way by introducing the knife beyond the edge of the ulcer on one side, passing it across to the unaffected tissue of the other side, making a counter-puncture and cutting out. The hypopion mass, semi-encysted as it was, did not come away with the aqueous, and the surgeon introduced a small pair of forceps into the anterior chamber, seized it and withdrew it. A sharp cry of pain escaped the patient at the instant of its leaving the iris, and the operator remarked that it was astonish-

ing how painful the procedure was. He then had the eye thoroughly cleansed with a sulphate of quinine solution into which enough dilute sulphuric acid had been put to clear it up. The strength was a little less than $\frac{1}{100}$. Other preparations of quinine were as good, he supposed; but this gave him satisfaction, and he saw no reason for resorting to the more soluble salts. This was his favorite antiseptic wash in such cases. The eye did poorly, however, and in two or three days it had to be removed for suppurative inflammation. The same operator did the enucleation, remarking at the same time that it was thought dangerous to remove an eye in a state of suppurative penophthalmitis but, while he admitted the danger, he thought the operation was sometimes necessary, in which cases he unhesitatingly did it, washing the cavity out after the operation with chloride of zinc solution. This wash was employed in the above case with good results.

This same operator is he who has made such a reputation for himself by doing cataract extractions without forceps. He operates constantly that way, and his results have been such as to convince him that this method, begun in a spirit of contrariness, as he himself admits, is the best one. The history of how he first resorted to this apparently hazardous procedure is quite interesting. A certain eminent oculist was arguing with him the advisability of discarding the speculum in cataract extractions, claiming that one's fingers should be so educated that he could hold the lids away while he makes his incision; and the operator's reply was that, as for that, he could do extractions without either forceps, speculum or assistant. The second gentleman seemed incredulous. A patient was brought in, and the first gentleman lost no time in demonstrating his ability to do as he said he could. From that day to this he has not used the forceps. His reason for continuing their disuse is that they produce unnecessary traumatism. I confess to considerable uneasiness on first seeing him begin his operation, but the fear was all

on my side. Consciousness of ability, backed by a long line of successes, has removed all trepidation, if ever there was any, and the operator does his work as if convinced of the correctness of his course.

When about to perform an iridectomy for glaucoma, this same gentleman makes his incision with a rather stout knife, as for cataract, only, of course, further from the corneal margin and shorter. The incision here in extraction is closer to the margin of the iris, and more care is taken to make a large conjunctival flap than is practiced in the west.

These observations are not offered in any spirit of criticism, but to exhibit contrasts in practice only. We should all strive to become broad-minded enough to view matters impartially, and learning the methods and ideas of other men is one step in that direction. He that claims to know it all makes truth synonymous with his own narrow ideas. He has never learned the magnitude of the question: "What is truth?" Perhaps ages after he is tucked away under the clod men will still be working out the answer to this great question.

No. 14 Pakenham St., June 1, 1896.

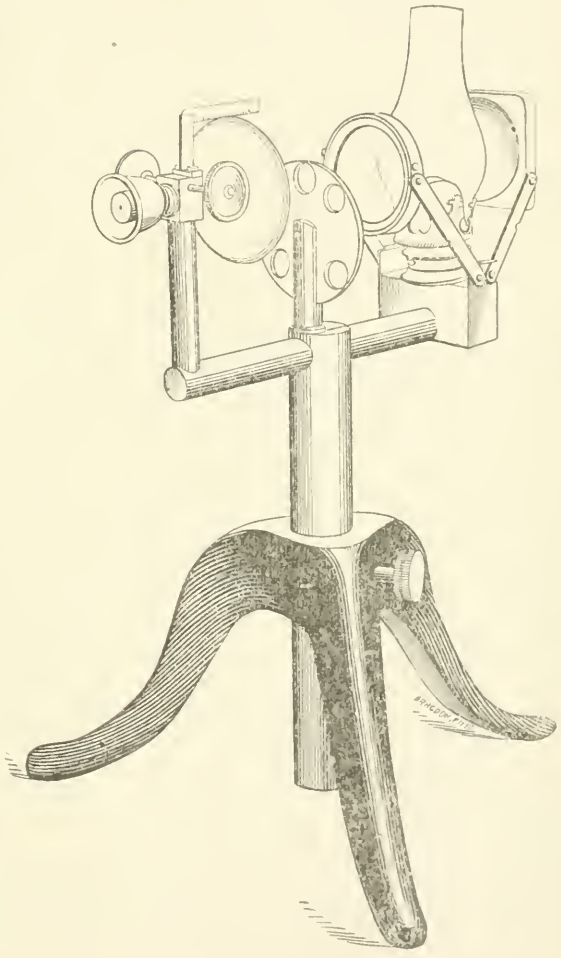
A NEW PERIMETER.

By B. M. HANNA, M.D., Pittsburg, Pa.

This instrument is designed to do the work formerly done by the old style perimeter. It is constructed on entirely new lines as far as I know, and I hope that its use will be satisfactory, particularly in taking the peripheral field of vision. It has the advantage of both simplicity and comparative cheapness to recommend it.

On a tripod is mounted a horizontal bar movable vertically and rotatable, capable of being made fast by a set screw on which is a reflector, lamp, condenser, circular perforated disc, and

polished parabola, inside of which are two sliding tubes worked by a rack and pinion, and rotatable, in the center of which runs a rod, supported in position by round centrally perforated pieces of glass, to the end of which is attached a reflecting cone slightly perforated in the centre with an angle that will turn the light at 90°.



The patient is placed with his eye to the parabola, the light is thrown through the condenser into the tube to the cone and

is reflected at an angle of 90° to the sides of the parabola and from there into the patient's eye at an angle varying in accordance with the position of the cone which can be changed and regulated by the rack and pinion on the side of the instrument, in that way causing a circle of light to appear in the eye. The size of the circle depending on the angle at which the light is thrown into the eye. Should there be a scotoma any place in the field of vision it will readily be discovered by the lapse which it will produce in the continuity of the circle. Should we desire to measure the size of the scotoma by slipping one of the tubes which has a small perforation on the side up against the cone we are able to shut all the light from the parabola save what will pass through the small aperture in the side of the tube, the eye being fixed in the meantime by the small light in the centre of the base of the cone at the end of the tube, and by rotating this aperture by turning the tube, we are able to determine the number of degrees of inability to perceive light in a circular direction, and read the same on a scale on a large circular disc so placed that it moves with the small spot of light, and which is marked in the degrees of the arc for that purpose; then we can by using the rack and pinion push forward and withdraw the illuminated spot on the side of the parabola, thus measuring on the scale on the top of the instrument, also marked in degrees, the opposite size of the scotoma.

Accompanying this instrument is a little pad containing a series of concentric circles marked both ways in degrees so that a person can diagram the results. If the field is contracted the amount, etc., can in the same way be readily defined. If for particular colors, a little wheel in front of the condenser contains five spaces, one of which is blank, the other four containing red, green, yellow and blue glass; arranged with stop notches on a pivot so that it can be revolved and any color used for testing. Should a person want to use a color of different intensity a different shade can be held in front of the blank

space. This is a fair description of my device and its uses. It is to be hoped that the profession will find that with it they will be able to get more reliable and quicker results than we have been able to do with our present mode of taking field of vision.

The parabola can be made of a size that it can be inserted underneath the lids, coming in actual contact with the ball of the eye, so removing the trouble which the presence of the lids and thickness might cause, and in this instrument it will also be noticed that the nose is not an impediment.

In closing, would beg to say, that I am much indebted to J. Ludwig & Co. for skill in manufacturing this instrument.

SOME SUPPLEMENTARY REMARKS ON SCOPOLAMINE AS A MYDRIATIC.*

By ARTHUR G. HOBBS, M.D., Atlanta, Ga.

I have stated in my former papers that scopolamine hydrobromate occupies a middle ground between atropia on the one hand, which is known to produce a complete paralysis of accommodation and retain its effects for a week or ten days, and homatropine, which is claimed by some, and denied by others, to effect a complete control of the accommodative muscles and retain its effects about three days.

In the first case the time necessary to accomplish a full paralysis ranges from two and a half to three and a half days; and in the second, ninety minutes to two hours, according to its advocates; but if a one-twentieth per cent. solution of scopolamine be used, with intervals of fifteen minutes between the installations for one hour, the full effect is reached quite as com-

*Stenographer's abstract of Dr. Hobbs' third paper as read before the Georgia State Medical Association, April 17th, 1896. A fourth paper will soon appear in the Journal of the Am. Med. Assn.

pletely as that produced by a three days use of atropia, and the paralysis only lasts from one and a half to two days.

At first I used scopolamine in a solution of $\frac{1}{2}$ grain to the ounce, but now I use it in much weaker solutions. It should be dropped at intervals of ten to twenty minutes on the cornea, until four or, at most, five instillations have been made, when it may be assumed that a complete paralysis of the accommodative muscles exists.

In simple refractive cases I prefer it to atropia always because it does its work much more quickly, while its decline is at the most only about one-fifth, and oftener only one-sixth, of the time required by atropia, and accommodation is restored within a day and a half or two days after its instillation. If the patient is a business-man who can afford but little time, a weak solution of eserine (one-eighth of a grain to the ounce) may be used to more rapidly reduce the pupil. Scopolamine produces no unpleasant effects in the throat as does atropia. I now use it in a weak solution in cases of glaucoma with very small pupils if a larger pupil for any reason is desired, for example, to more thoroughly examine the retina and media. In some cases of iritis, when atropia has failed to produce sufficient dilation of the pupil, I have found that a solution of scopolamine accomplishes the object well in the few cases in which I have resorted to it for this purpose. The pupil will become dilated one-half, if a $\frac{1}{300}$ of a grain be properly dropped on the cornea, and $\frac{1}{150}$ of a grain will dilate it to its full extent under the same conditions.

Although scopolamine has had six or seven clinical articles written upon it since I read my second paper on its uses before this Association one year ago, yet almost nothing, from a clinical standpoint, had been written on the subject before that time. Each of these articles which have appeared during the past year honored me by referring to my papers as the only clinical contributions on the subject up to that date.

During the past year I have continued the use of this new mydriatic, and during this time no toxic symptoms have been manifested under its use except, perhaps, in half a dozen cases, and in these there was merely a slight indication of constitutional effects. I use it now, most frequently in a $\frac{1}{2}$ per cent. solution and often in only a $\frac{1}{4}$ per cent. solution, occasionally, for some special reason (such, for example, in a case with the history of a former resistance), I will use it as strong as $\frac{1}{1}$ per cent. My basic solution from which I can make all others (except the rare $\frac{1}{1}$) is $\frac{1}{2}$ per cent. strong. I use the weaker solutions with as few restrictions as I would use boracic acid, barring an unnecessary dilatation of the pupil. It produces no increase of tention and hence the old eye, even if it be glaucomatous, does not restrict its use, as in a greater or less degree it would bar all other mydriatics.

Hydrobromate of scopolamine is as sure of producing a complete effect in sixty to ninety minutes as is atropia in two or three days, and it persists at most only until the third day, and oftener only two, instead of a week or ten days. For this very reason atropia is often preferable, but never for refraction purposes pure and simple, where scopolamine will, I think, finally gain a place above all other mydriatics.

This most potent of all drugs has been used constantly in my refraction room for three years, and I have learned to like it better and better each year as I learn to respect its great potency.

SPONGE GRAFTING IN THE ORBIT FOR SUPPORT OF ARTIFICIAL EYE.

By E. OLIVER BELT, M.D., Washington, D. C.

Professor of Ophthalmology and Otology, Howard University, and Oculist and Aurist to Freedmen's Hospital.

To a skilled oculist the ordinary enucleation of an eyeball is one of the simplest operations he is called upon to perform, and yet there are some cases in which so much of the con-

junctiva is destroyed by careless or ignorant operators, that it is impossible for an artificial eye to be worn afterwards. This is very annoying to a patient and we cannot blame him if he never forgives the doctor who has so afflicted him. Such cases emphasize the fact that it is the duty of the surgeon not only to operate skillfully for the immediate relief desired, but he should do everything in his power to prevent disfigurement, and when an organ or limb cannot be restored to usefulness, he should at least obtain the best cosmetic results possible. After an eyeball has been removed and an artificial eye inserted very frequently it is not as prominent as the good eye. It has a *sunken appearance* which attracts attention at once to the fact that the eye is artificial. To remedy this defect has been a problem for ophthalmologists for years.

One of the most satisfactory operations heretofore practiced is that known as Mule's operation, which consists in the evisceration of the contents of the eye, and the insertion of a hollow glass globe in the sclerotic. This is sewed in, and proved fairly satisfactory, but there is some danger of the globe being broken, and occasionally the stitches come out and the globe escapes. There is also the risk of sympathetic ophthalmia where the entire eyeball is not removed. To obviate these difficulties and at the same time secure a full orbit, I have devised a method of sponge grafting, which seems to meet the requirements without the disadvantages of other methods.

The operation is a simple one and is performed as follows: The eyeball is removed by the ordinary method under strict asepsis. After all hemorrhage is arrested the socket is washed out with Formalin solution 1 to 1,000, followed by sterilized salt solution. A globe of fine soft sponge, about three-fourths the size of the eyeball (previously sterilized in five per cent. Formalin solution and rinsed in the salt solution) is then inserted into the socket, or capsule of Tenon. The conjunctiva is brought together and sewed with rat-tail sutures. The eye

lids are then closed with compress and bandage. In a few weeks the sponge is filled with new tissue, which in time becomes firm, solid flesh, making a full orbit and a fine support for the artificial eye. The sponge fibres are apparently absorbed.

I have performed this operation in five cases with fairly good results in all, but union of the conjunctiva has not been firm enough to prevent some of the stitches from breaking or cutting out and the wound gaping. In future cases to relieve this strain on the conjunctiva and to obtain good motion of the eye I think of uniting the opposing recti muscles with rat-tail sutures, and then the conjunctiva over that by the purse-string or subcutaneous suture. By this method we should get union by first intention, good motion of the stump, and a full orbit. There seems to be no danger from infection of the sponge, for in two cases the eye was removed for panophthalmitis. Not only has this operation advantages over other methods in recent cases, but in old cases in which the eye was removed months or years ago, when there is this sunken appearance of the artificial eye the socket might be reopened and a sponge inserted.

Since making my investigations I find that Prof. D. J. Hamilton, of Edinburgh, practised sponge grafting for old ulcers in 1880, since which time a few other physicians have tried it in fresh wounds and some other similar conditions that skin grafting has been used in. However, I cannot find in all the medical literature in the Library of the Surgeon General's office any mention of sponge being used as I have suggested and tried.

Chicago, June 12, 1896.

My Dear Doctor:

Referring to your letter of February 28, I send you enclosed a few observations on the metamorphopsia noticed by patients. Why do many of these patients see distant things correctly and

a card near by out of shape? Is it only want of very accurate observation? And again, why is it that the metamorphopsia is well marked in binocular vision but not noticed with each eye alone? These are a few of the points of this very interesting subject I should like to have your views on. Yours truly,

F. C. Hotz.

(1) Mrs. G. B., 41.

R. E. — 2 C 165° V = $\frac{20}{20}$; L. E. — 2 C 75°, V $\frac{20}{20}$. Without glasses, rectangular card in shape at distance and near.

With above lenses, no metamorphopsia at distance but near right side of card longer and sloping down to right.

Metamorphopsia disappeared in two days.

(2) Miss Litt F., 33.

R. E. + 3 ⊃ + 1 C 45° V = $\frac{20}{20}$; L. E. + 1 50 ⊃ + 2 C 115° V = $\frac{20}{30}$ +. No metamorph. without glasses.

With correcting lenses no metamorph. at distance, but near upper side of card longer.

(3) Miss May Sh., 17.

R. E. + 1 ⊃ + .50 C. 90° V $\frac{20}{20}$; L. —1 ⊃ + 5.50 C 90° V $\frac{20}{20}$.

Each eye alone sees card correct with and without glasses; but both eyes together with correcting lenses left side longer.

(4) Mrs. Mary K., 55.

R. — 1.50 ⊃ + 5 C 120° V = $\frac{20}{30}$; L. — 1.50 ⊃ + 4 C 60°, V $\frac{20}{30}$. Same results with cross cylinders.

R. E. with above glass sees lower side of rectangle longer than top, and right side sloping, while left side straight.

L. E. Same metamorphopsia with left side slanting. No metamorphopsia without glasses.

Lady has not reported whether and when she got over the metamorphopsia.

(5) Mrs. Ev. Fi., 28.

R. E. + 3 C 95° V = $\frac{20}{40}$; Square card looks perfectly square with or without cylinder.

L. + 1.25 ⌒ + 1.25 C 85°, $\frac{20}{20}$. Square card perfectly square without and with above corrections.

But both eyes together with correcting lenses see a square like this

Metamorphopsia disappeared after a few days.

Sheffield, England, May 16, 1896.

Dear Dr. Savage:

I have kept your letter by me intending to answer it by forwarding you a report of patients as you wished. I have in the past very frequently observed the complaint you mention but, very curiously, since the receipt of your letter, though I have been on the lookout, I have only had one case in which Metamorphopsia was acknowledged to be noticed when inquiry was made. This was a young woman aged about 25, and the refraction was R. E. Cyl + 5.5D 20° = $\frac{6}{9}$, L. E. Cyl + 6D 160° = $\frac{6}{12}$. The refraction was worked out under homatropine. She observed that the page of a book appeared wider at the top than at the bottom and that the bottom corner, as she called it, seemed cut off. The Metamorphopsia passed off in about three weeks time.

I will continue to note any cases, but it is very curious that with an unusually large number of cases in which cylinders have been ordered I have been able only to find the one I have described. My impression is that the condition is more noticed when the meridians are oblique than when they are more exactly vertical or horizontal.

With kind regards, very truly yours,

Simeon Snell, P. T. O.

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The Future of the Record.

For several years the present editor and publisher has felt the burden of his several duties to such an extent that he has been forced to contemplate the question of giving up some of them. His practice is his living, and that cannot be abandoned; his college work is pleasant and profitable, and must be continued; his family, social, religious and State duties must not be left undone. He has at last decided that, with promise of greater good to himself and least harm to humanity, he can yield to others the work of editing and publishing the RECORD. This issue which was intended, until a few days ago, to be No. 1, vol. 6, goes out as No. 61, and will be the last under the present editorial and business management; the only reason for the change being that it will greatly lighten the labors of him who has been both editor and publisher from the beginning. Relieved of this part of his work, he will still have enough left to keep him busier than a man ought be whose constitution is not the most robust.

CHICAGO

will be the place of future publication of the RECORD, if it is to be resumed. This question is to be wholly settled by oculists

of this and other countries. Its publication will not be resumed at the old rate of $2.00 per volume. If seven hundred friends and former readers will indicate a willingness to pay $3.00 per volume, by filling out and returning to the present editor and publisher, the blank at the bottom of the last page of reading matter, then the RECORD will be moved to Chicago and No. 1, Vol. 6, will be published January 1, 1897, under an entirely new business management, and with the editorial force enlarged and strengthened. The present editor, though still residing in Nashville, would continue to be one of the editors under the new regime.

In concluding this editorial the writer would have the reader understand that the future of the RECORD depends on his (the reader's) wish in the matter. The return of 700 blanks, properly filled, will move the RECORD to a great city where it will continue the good work it has been carrying on for the past five years. Silence on the part of any great number will prolong the proposed six months' slumber of the RECORD into an unending sleep.

The Past of the Record.

We have said no ugly things about our contemporaries, nor have we tried in any way to lessen their influence and patronage. On the contrary we have advised our readers more than once to take all the journals devoted to Ophthalmology published in the English language.

The RECORD has accomplished something during its five years of existence. Its aim has been the establishment of truth and the dethronement of error. To this end its pages have been open to all who have had anything to contribute to the advancement of the science and practice of Ophthalmology. Editorially it has been fearless but fair. Bitterness has not marred the writings of contributors. Because of the RECORD many things are now well understood which before were either un-

known or illy understood. Every careful reader has gotten far more out of the RECORD than he ever put in it. One of our leading men wrote, three years ago, that one single hint gotten from the RECORD was worth more to him than the cost of many volumes. Another recently wrote: "I have no money invested in journals that pays me so well as my subscription to the RECORD." Many such expressions have been received, and each gave pleasure. A very simple new method of treating episcleritis, as published by Dr. Coover in a recent issue of the RECORD, is worth more to any oculist than the cost of the five volumes. Every issue has had in it something of a practical nature.

The Present Condition of the Record.

There is in hand, and, promised enough matter to complete at least half of a new volume. Therefore, a want of matter for publication has not influenced the editor and publisher to take the course decided upon. As to finances, the RECORD has always more than paid its way. There is now in the treasury, after having paid the cost of the five volumes, the sum of five hundred and thirty dollars, and about $400.00 is due from delinquent subscribers. The financial question, therefore, cuts no figure in the proposed change.

Matter sent for publication has been returned to the authors. A few subscribers have paid for volume six. Such amounts will be returned to the subscribers, as all subscription contracts terminate with this issue.

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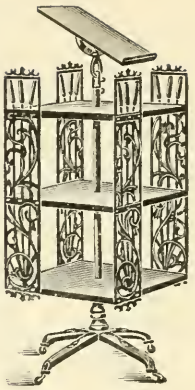

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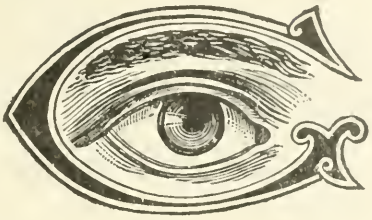
TRADE  MARK.

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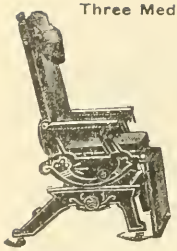
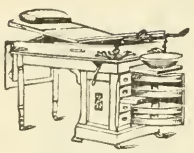
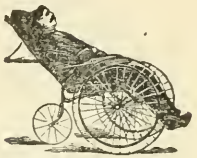
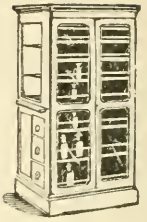

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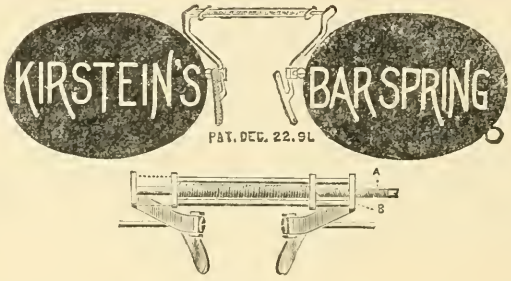

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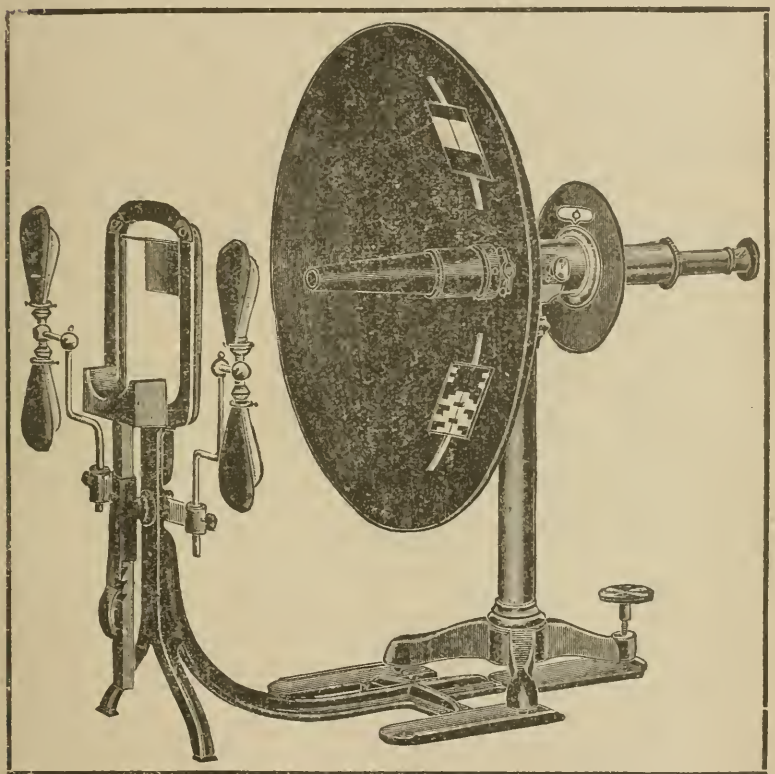

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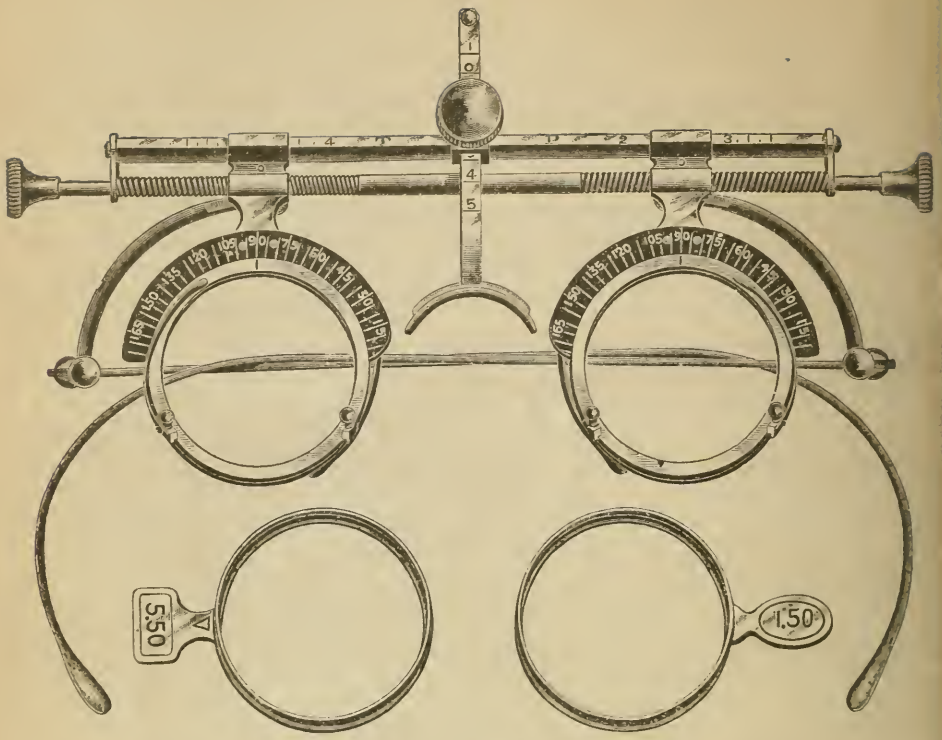

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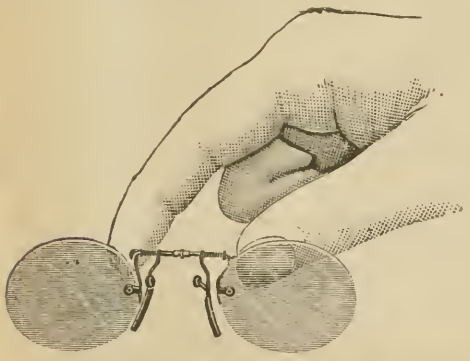

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